UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,873	08/02/2001	Hideo Namiki	071671-0158	4172

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EXAMINER
MEW, KEVIN D

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/919,873	NAMIKI, HIDEO
	Examiner	**Art Unit**	
	Kevin Mew	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2006*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-10 and 16* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *7,10 and 16* is/are rejected.
7)☒ Claim(s) *8-9* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   Paper No(s)/Mail Date. _____.
3)☐ Information Disclosure Statement(s) (PTO/SB/08)   5)☐ Notice of Informal Patent Application
    Paper No(s)/Mail Date _____.   6)☐ Other: _____.

Detailed Action

Response to Amendment

1.   Applicant's Remarks/Arguments filed 10/13/2006 have been considered. Claims 7-10,

16 are currently pending. Claims 1-6, 11-15, 17-18 have been canceled by applicant.

2.   Applicant's request for reconsideration of the finality of the rejection of the last Office

action has been considered.   However, after further consideration by the examiner, claims 7, 10,

16 are found unpatentable over the 35 USC § 103 rejection set forth below and the finality of the

previous Office action is also withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ganesan et al.

(USP 6,658,250) in view of Havermans et al. (USP 5,812,548), and in further view of Baik (USP

5,790,592).

Regarding claim 7, Ganesan discloses a synchronous data transmission system

comprising a first terminal and a second terminal (first and second fixed subscriber units 20, Fig.

2) and a transmission line connected between the first and second terminals for voice or image

communication with each other (first and second fixed subscriber units 20 in voice

communications with each other, Fig. 2), each terminal (mobile terminal comprising elements

21, 22, Fig. 3) including a voice or image input means (Receiver RF 31, Fig. 3), a sampling clock

generator, and A/D converter for digitalizing the output of the voice input means (A/D converter

32, Fig. 3), a data generator (channel decoder 35, Fig. 3), operable with the output of the

sampling clock generator (ASIC for generating synchronization for outgoing signal, col. 7, lines

21-29), for generating data on the basis of the output of the A/D converter (generating

demodulated waveform, col. 5, lines 56-67), a transmission buffer receiving the generated data

(receive buffer 56 for receiving the channel decoded data, col. 5, lines 66-67), a plurality

of reception buffer stages (transmit buffer 45, Fig. 3) supplied with the received data (supplied

with data received over data bus 26, Fig. 3) via a transmission line, a data reproducer (channel

encoder 44, Fig. 3) operable with the output of the sampling clock generator (ASIC for

generating synchronization for incoming signal, col. 7, lines 21-29), for reproducing data from

the plurality of reception buffer stages (for reproducing channel encoded data from the transmit

buffer 45, Fig. 3), a D/A converter for converting the reproduced data to an analog signal (D/A

converter 41 for converting digital data into analog signal, Fig. 3), a voice or image output

means for outputting voice (Transmit RF section 40, Fig. 3) based on the D/A converter output

(based on D/A converter 41 output, Fig. 3).

the data received from the transmission line (data bus) being stored via the transmission

line interface (line interface 8, Fig. 3) in the reception buffer (data received from the data bus

being stored via the interface 8 in the transmit buffer, Fig. 3), the data stored in the reception

buffer being transmitted to the data reproducer (the data stored in the transmit buffer 45 are being

transmitted to the channel encoder 44, Fig. 3).

Ganesan does not explicitly show whether the data bus/transmission line is synchronous or asynchronous.

However, Havermans discloses a data bus that exchanges traffic in time slots for both synchronous communications and for asynchronous communications (col. 1, lines 58-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fixed subscriber unit 20 of Ganesan with the teaching of Havermans in supporting both asynchronous and synchronous traffic on a common data bus such that the data bus of Ganesan supports both synchronous or asynchronous communications.

The motivation to do so is to support both synchronous and asynchronous traffic between stations using a common communication path without having collisions to occur.

Ganesan and Havermans do not explicitly show the data stored in the transmission buffer having been packeted in certain time units (t) and being outputted via asynchronous transmission line interface to the asynchronous transmission line for the time unit (t), the reception buffer being capable of storing data received from the asynchronous transmission line for a plurality of times (nxt) in every unit time (t), and the data reproducer reproducing data when data for the plurality of times (nxt) has been stored.

However, Baik discloses a first buffer in a CDMA terminal in which the transmitting data are stored in the first buffer at one time period during the channel-encoding operation, and the receiving data are stored in the first buffer at another time period before the decoded data are stored at another time period in the second buffer during the channel decoding operation (col. 3, lines 42-61 and Fig. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the fixed subscriber unit 20 of Ganesan and Havermans with the

teaching of Baik such that the data stored in the transmission buffer having been packeted in

certain time units (t) and being outputted via asynchronous transmission line interface to the

asynchronous transmission line for the time unit (t), the reception buffer being capable of storing

data received from the asynchronous transmission line for a plurality of times (nxt) in every unit

time (t), and the data reproducer reproducing data when data for the plurality of times (nxt) has

been stored.

The motivation to do so is to perform channel encoding and decoding operation within a

predetermined time period of 20 msec.

4.   Claims 10, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganesan et

al. (USP 6,658,250) in view of Havermans et al. (USP 5,812,548) and Baik (USP 5,790,592),

and in further view of Sugar (5,790,538).

Regarding claim 10, Ganesan, Havermans, and Baik disclose all the aspects of claim 7

above, except fails to disclose the synchronous data transmission system according to claim 7,

wherein the sampling clock frequency of one terminal is made closer to the sampling clock

frequency of another terminal by estimating the sampling clock on the basis of the data received

directly from the asynchronous transmission line without having been processed in any manner

by the one terminal.

However, Sugar discloses packet stream contains data that allows the receiving unit to

synchronize its clock frequency to the transmitting clock frequency (col. 7, lines 43-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the fixed subscriber unit 20 of Ganesan, Havermans and Baik

with the teaching of Sugar in containing data in the packet streams that allows the receiver to

synchronize the transmitter's clock frequency to the receiver's clock frequency such that the

sampling clock frequency of one terminal is made closer to the sampling clock frequency of

another terminal by estimating the sampling clock on the basis of the data received directly from

the asynchronous transmission line without having been processed in any manner by the one

terminal.

The motivation to do so is to avoid timing jitters and data loss.

Regarding claim 16, Ganesan, Havermans, and Baik disclose all the aspects of claim 7

above, except fails to disclose the synchronous data transmission system according to claim 7,

wherein the plurality of reception buffer stages are configured to handle both data underflow and

data overflow, without loss of data, due to different sampling clock rates output by the respective

sampling clock generator provided in the first and second terminals.

However, Sugar discloses maintaining proper flow control at the Voice Sample FIFO of a

receiver by utilizing a continuous phase resampler to remove timing frequency offset without

causing loss of data (col. 6, lines 65-67, 1-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the fixed subscriber unit 20 of Ganesan, Havermans and Baik

with the teaching of Sugar in coupling a resampler to the Voice Sample FIFO to maintain proper

flow control such that the plurality of reception buffer stages of Ganesan are configured to

handle both data underflow and data overflow, without loss of data, due to different sampling clock rates output by the respective sampling clock generator provided in the first and second terminals.

The motivation to do so is to use the resampler to remove timing frequency offset and hence avoiding timing jitters without causing packet sequence slips for voice.

Allowable Subject Matter

5.   Claims 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 8, the synchronous data transmission system according to claim 7, further comprising a sampling clock synchronizing means for synchronizing the sampling clocks of the sampling clock generators in the first and second terminals by inputting the output of the sampling clock generator in one terminal to the sampling clock generator in another terminal.

In claim 9, the synchronous data transmission system according to claim 7, wherein the frequency difference between the sampling clocks generated in the sampling clock generators in the first and second terminals is eliminated by inputting the clock from the sampling clock generator in one terminal to the sampling clock generator in another terminal.

Response to Arguments

6.   Applicant's arguments with respect to claims 7, 10, 16 have been considered but are moot

in view of the new ground(s) of rejection.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The

examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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